IN THE CLAIMS:

1. (Currently Amended) An image processing method for use on a data processing device, the method comprising the acts of:

receiving at least one monocular video input image I_k;

segmenting at least one foreground object from the input image I_k;

applying ~~at least one~~ a respective left (TLm) and right (TRm) transformation to each segmented foreground object and a respective left (HL) and right (HR) background transformation to the background, for each of a plurality of output images;

combining the respective left transformation (TL_m) corresponding to each segmented foreground object with the respective left background transformation (HL) corresponding to the background to generate a left view L_k for each of said plurality of output images;

combining the respective right transformation (TRm) corresponding to each segmented foreground object with the respective right background transformation (HR) corresponding to the background to generate a right view R_k for each of said plurality of output images; and

deriving the plurality of output images from the results of the respective transformations.

2. (Original) The method of Claim 1, further comprising second segmenting at least one background object from the input image and applying a respective

transformation to each segmented background object for each of the plurality of output images.

3. (Original) The method of Claim 1, wherein there are two output images and two respective transformations are applied to each segmented object and two transformations are applied to the background to create the two output images.

4. (Original) The method of Claim 1, further comprising displaying the plurality of output images, so that the plurality of output images are perceivable by a user as a single image having enhanced three dimensional appearance.

5. (Original) The method of Claim 1, wherein the respective transformations wherein the respective transformations applied to the foreground object make the foreground object stand out from the background.

6. (Original) The method of Claim 1, wherein

the receiving comprises receiving a multiplicity of monocular input images;

the deriving comprises deriving a respective plurality of output images for each of the monocular input images;

the method further comprises displaying the respective pluralities of output images in a combining device, so that the respective pluralities of output images are perceivable by a user as a sequence of single images giving an illusion of

motion and having an enhanced three dimensional appearance in which the at least one foreground object moves separately from the at least one background object.

7. (Original) The method of claim 6, wherein the at least one foreground object appears to move in the output images, while at least a portion of the rest of the image appears not to move.

8. (Original) The method of claim 1, wherein the segmenting and applying involve using domain knowledge to recognize positions of expected objects in the monocular input image and derive positions of objects in the output images.

9. (Original) The method of claim 1, wherein the respective transformations for background pixels are derived by comparing at least two monocular input images of a single scene.

10. (Original) The method of claim 1, further comprising, prior to applying the transformation, approximating a position of each segmented object as appearing on a fronto-parallel plane.

11. (Currently Amended) An image processing device comprising

an input for receiving at least one monocular video input image;

at least one processor adapted to perform the following operations

segmenting at least one foreground object from the input image;

applying ~~at least one~~ a respective left (TLm) and right (TRm) transformation to each segmented foreground object and a respective left (HL) and right (HR) background transformation to the background, for each of the plurality of output images;

combining the respective left transformation (TL_m) corresponding to each segmented foreground object with the respective left background transformation (HL) corresponding to the background to generate a left view L_k for each of said plurality of output images;

combining the respective right transformation (TRm) corresponding to each segmented foreground object with the respective right background transformation (HR) corresponding to the background to generate a right view R_k for each of said plurality of output images; and

deriving the plurality of output images from the results of the respective transformations.

12. (Original) The device of Claim 11, wherein the operations further comprise second segmenting at least one background object from the input image and applying a respective transformation to each segmented background object for each of the plurality of output images.

13. (Currently Amended) The device of Claim 11, wherein

there are two output images; and

the operations further comprise, in order to create the two output images:

applying two respective transformations to each segmented object; and

further applying two transformations ~~are applied~~ to the background.

14. (Original) The device of Claim 11, further comprising a combining display unit adapted to receive and display the plurality of output images, so that the plurality of output images are perceivable by a user as a single image having enhanced three dimensional appearance.

15. (Original) The device of Claim 11, wherein the respective transformations applied to the foreground object make the foreground object stand out from the background.

16. (Original) The device of Claim 15, wherein

the receiving comprises receiving a multiplicity of monocular input images;

the deriving comprises deriving a respective plurality of output images for each of the monocular input images;

the device further comprises a combining display unit for receiving and displaying the respective pluralities of output images, so that the respective pluralities of output images are perceivable by a user as a sequence of single images giving an illusion of motion and having an enhanced three dimensional appearance in which the

at least one foreground object moves separately from the at least one background object.

17. (Original) The device of Claim 16, wherein the at least one foreground object appears to move in the output images, while at least a portion of the rest of the image appears not to move.

18. (Original) The device of Claim 11, wherein the segmenting and applying operations involve using domain knowledge to recognize positions of expected objects in the monocular input image and derive positions of objects in the output images.

19. (Original) The device of Claim 11, wherein the respective transformations for background pixels are derived by comparing at least two monocular input images of a single scene.

20. (Original) The device of Claim 11, wherein the operations further comprise, prior to applying the transformation, approximating a position of each segmented object as appearing on a fronto-parallel plane.

21. (Currently Amended) At least one medium readable by a data processing device and embodying code for causing execution of the following operations:

receiving at least one monocular video input image;

segmenting at least one foreground object from the input image

applying ~~at least one~~ a respective left (TLm) and right (TRm) transformation to each segmented foreground object and a respective left (HL) and right (HR) background transformation to the background, for each of the plurality of output images;

combining the respective left transformation (TL_m) corresponding to each segmented foreground object with the respective left background transformation (HL) corresponding to the background to generate a left view L_k for each of said plurality of output images;

combining the respective right transformation (TRm) corresponding to each segmented foreground object with the respective right background transformation (HR) corresponding to the background to generate a right view R_k for each of said plurality of output images.

~~deriving the plurality of output images from the results of the respective transformations.~~

22. (Original) The medium of Claim 21, wherein the operations further comprise second segmenting at least one background object from the input image and applying a respective transformation to each segmented background object for each of the plurality of output images.

23. (Original) The medium of Claim 21, wherein there are two output images and two respective transformations are applied to each segmented object and two transformations are applied to the background to create the two output images.

24. (Original) The medium of Claim 21, wherein the operations further comprise displaying the plurality of output images in a combining device, so that the plurality of output images are perceivable by a user as a single image having enhanced three dimensional appearance.

25. (Original) The medium of Claim 21, wherein the respective transformations applied to the foreground object make the foreground object stand out from the background.

26. (Original) The medium of Claim 25, wherein

The receiving comprises receiving a multiplicity of monocular input images;

the deriving comprises deriving a respective plurality of output images for each of the monocular input images;

the operations further comprise displaying the respective pluralities of output images in a combining device, so that the respective pluralities of output images are perceivable by a user as a sequence of single images giving an illusion of motion and having an enhanced three dimensional appearance in which the at least one foreground object moves separately from the at least one background object.

27. (Original) The device of Claim 16, wherein the at least one foreground object appears to move in the output images, while at least a portion of the rest of the image appears not to move.

28. (Original) The medium of Claim 21, wherein the segmenting and applying operations involve using domain knowledge to recognize positions of expected objects in the monocular input image and derive positions of objects in the output images.

29. (Original) The medium of Claim 21, wherein the respective transformations for background pixels are derived by comparing at least two monocular input images of a single scene.

30. (Original) The medium of Claim 21, wherein the operations further comprise, prior to applying the transformation, approximating a position of each segmented object as appearing on a fronto-parallel plane.

31. (New) The method of Claim 1, wherein the act of segmenting at least one foreground object from the input image further comprises:

applying a homography transformation H_k to the at least one monocular video input image I_k to create at least one transformed image J_k;

combining the at least one transformed images J_k to create a mosaic M;

applying a median filter to the multiple values at each pixel of said mosaic M to derive a median value at each of said pixels in said mosaic M;

applying an inverse homography transformation H_k^{-1} to said mosaic M to derive at least one background image B_k;

comparing the at least one background image B_k with the at least one input image I_k to create at least one mask image M_k;

extracting those pixels from the monocular input image I_k that are set to one in the mask image M; and

setting the remaining pixels in the monocular input image I_k not set to one at said extracting act in the mask image M to black resulting in the identification of said at least one foreground object from the input image I_k.

32. (New) The device of Claim 11, wherein the operation of segmenting at least one foreground object from the input image, further comprises:

applying a homography transformation H_k to the at least one monocular video input image I_k to create at least one transformed image J_k;

combining the at least one transformed images J_k to create a mosaic M;

applying a median filter to the multiple values at each pixel of said mosaic M to derive a median value at each of said pixels in said mosaic M;

applying an inverse homography transformation H_k^{-1} to said mosaic M to derive at least one background image B_k;

comparing the at least one background image B_k with the at least one input image I_k to create at least one mask image M_k;

extracting those pixels from the monocular input image I_k that are set to one in the mask image M; and

setting the remaining pixels in the monocular input image I_k not set to one at said extracting act in the mask image M to black resulting in the identification of said at least one foreground object from the input image I_k.

33. (New) The medium of Claim 21, wherein the operation of segmenting at least one foreground object from the input image, further comprises:

applying a homography transformation H_k to the at least one monocular video input image I_k to create at least one transformed image J_k;

combining the at least one transformed images J_k to create a mosaic M;

applying a median filter to the multiple values at each pixel of said mosaic M to derive a median value at each of said pixels in said mosaic M;

applying an inverse homography transformation H_k^{-1} to said mosaic M to derive at least one background image B_k;

comparing the at least one background image B_k with the at least one input image I_k to create at least one mask image M_k;

extracting those pixels from the monocular input image I_k that are set to one in the mask image M; and

setting the remaining pixels in the monocular input image I_k not set to one at said extracting act in the mask image M to black resulting in the identification of said at least one foreground object from the input image I_k.